SWBAT: make and measure standing waves

Jan 4-7:20 AM

Concept Sheet

~ 7 rows when we're done...

We'll fill in two terms (rows) today.

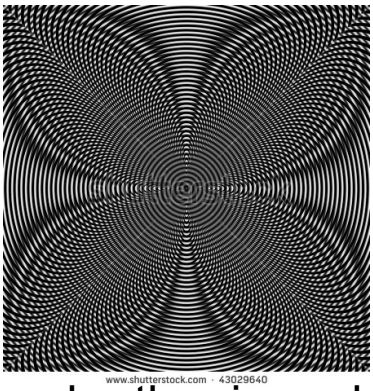
Concept	Meaning	Sym-bol	Units	Picture
FREQUENCY	HOW MANY PER UNIT OF TIME FREQ = # / TIME	f, f = 1/T	hertz, Hz = 1/sec	00:01
PERIOD	HOW MUCH TIME FOR ONE. PERIOD = TIME / #	T, T = 1/f	seconds, sec.	TIME
TRANSVERSE: WHEN THE MEDIUM VIBRATES ACROSS THE DIRECTION THE WAVE TRAVELS.				
LONGITUDINAL: WHEN THE MEDIUM VIBRATES ALONG THE DIRECTION THE WAVE TRAVELS.				
AMPLITUDE	HOW FAR FROM THE MIDDLE.	A	meters, m	
WAVELENGTH	HOW FAR FOR ONE "BACK & FORTH"	LAMBDA, λ	meters, m	
WAVESPEED	DISTANCE OF A WAVE / TIME OF A WAVE	v	meters/second, m/s	λ ÷ TIME

Feb 18-6:50 AM

SECA Physics
Friday 17 April 2015

Welcome!!!

H. Leslie Grebe



* Pick up:
  - blue concept sheet
  - slip of paper (for later)

Opening Questions:

Where do we see waves run into each other in real life?

http://www.youtube.com/watch?v=J_xd9hUZ2AY

http://www.youtube.com/watch?v=c3074eM5AeY

http://www.youtube.com/watch?v=k1HdUj6rmAg

Centering

Sep 7-7:04 AM

Standing Waves:

= a wave that **appears** to stay in one place.

Caused by interference.

Points that remain still are called NODES. NO MOTION

https://www.youtube.com/watch?v=ynqzeIYA7Iw

https://www.youtube.com/watch?v=EhnbhOoPIBc

https://www.youtube.com/watch?v=gpCquUWqaYw

RUBEN'S TUBE: VISUAL REPRESENTATION OF SOUND WAVES

Apr 21-7:45 AM

Try it...

What could we measure???

DISTANCE: 2.91 m

BUMPS: 1

TIME: 10 s.

#CYCLES: 10.5

FREQUENCY = $\frac{\#}{\text{TIME}} = \frac{10.5}{10\text{ s.}}$

$= 1.05\text{ Hz}$

PERIOD = $\frac{\text{TIME}}{\#} = \frac{10\text{ s}}{10.5} = .952\text{ s.}$

WAVELENGTH: $2.91\text{ m} \times 2 = 5.82\text{ m}$

WAVE SPEED: $\frac{\lambda}{T} = \frac{5.82\text{ m}}{.952\text{ s.}} = 6.09\ \frac{\text{m}}{\text{s}}$

Feb 5-7:41 AM

Daily 3 Questions

CP: No homework

FINISH STANDING WAVE SHEET

* Every day except test/project days
* 3 Questions on the topics of the day
* Main source of daily points
* I am happy to give credit when I have no concerns about someone giving or getting help with the answers.

You can't get your points if you don't have your NAME!!!

Name	Period
1.	
2.	
3.	

Sep 9-7:32 AM

1) A _____ is a wave that appears to stay still.
   A) Standing Wave
   B) Wavelength
   C) Moire Pattern

2) The units for measuring Wave Speed are
   A) seconds
   B) meters
   C) meters per second

3) The Ruebens tube (pipe with flames) provides a way to look at SOUND waves.

Apr 15-7:43 AM